MAP CATALOGING: LEARNING THE BASICS

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9:00 am – 12:30 pm
San Francisco, California

Susan M. Moore
University of Northern Iowa
(319) 273-3661
susan.moore@uni.edu

and

Lucinda M. Hall
Dartmouth College
(603) 646-0962
lucinda.m.hall@dartmouth.edu

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Prepared by Susan M. Moore, University of Northern Iowa
RESOURCES

Cataloging Rules (in addition to AACR2rev.)


Natural Scale Indicator/Map Scale Indicator

Plastic version (approx. $5-$10) Heavy paper version (Possibly no cost)
Department of Geography U.S. Department of Commerce
Memorial University of Newfoundland National Oceanic & Atmospheric Administration
St. John’s, Newfoundland A1B 3XP Canada National Ocean Service
http://www.mun.ca/geog/muncl/Products/hsi.htm Physical Science Services Branch
Rockville, MD 20852

For general information about maps and map librarianship

Map librarianship: an introduction / Mary Lynette Larsgaard. 3rd ed. Englewood, Colo. : Libraries Unlimited, 1998. ISBN 1-56308-474-0 (Includes a very extensive bibliography and a lot of excellent information on cataloging issues as well as other aspects of map librarianship)

USGS maps (USGS brochure with examples of different types of maps and relief). Request from: USGS Map Distribution, Box 25286, Denver, CO 80225
For information about mapmaking and/or map projections


Web resources

http://www.sunysb.edu/libmap/magert1.htm Map and Geography Round Table, American Library Association / webmaster: David Allen.


http://ucs.orst.edu/~reeset/tools.html Oregon State University Map Cataloging -- Cartographic Cataloging Tools / Terry Reese.


http://www.waml.org/maptools.html Western Association of Map Libraries' Map Librarian's Toolbox / Linda Zellmer.

Based on handouts prepared by Catherine Gerhart, University of Washington
Major Differences between Book and Map Cataloging
(minus Mathematical and Physical Description)

Note: AACR2=Anglo-American Cataloging Rules, 2nd ed., revised
CM=Cartographic Materials
MCM=Map Cataloging Manual

I. Fixed Fields

A. All cartographic materials whether digital or not are coded Type “e”. (Note: 034 and 255 required for all type “e” records)
There are five initial determinations to make when beginning to catalog a cartographic item.

Is it an atlas?
Atlases are collections of maps intended to be used like a book and shelve together that can be bound or loose-leaf, flat or folded, in cases, boxes, portfolios, or folders. (CM p.185)

Is it a single map sheet?
Single maps can be printed on two or more sheets (usually less than 12), are published together, have incomplete borders, and, have the main title and legend on only one of the sheets (MCM 7.2)

Is it a maps set/series?
Map set/series are collections of maps, with common unifying features, often similar sized, with the same scale and relief/symbols. They may form a single map when assembled, often will have a collective title and individual sheet designations. A distinguishing feature from single maps is that maps set/series are intended to be used individually as well as together. (MCM 7.2-7.4)

Is it a serial?
Map serials are infrequent but when they do occur they look very much like regular serials with serial title constant from issue to issue and a numbering system which includes issue number and date of issue. (CM p. 177)

Is it a digital map?
When deciding whether a computer should be considered a cartographic materials consult the "Guidelines for Distinguishing Cartographic Materials on Computer File Carriers from other Materials on Computer File Carriers" This document can be found at http://lcweb.loc.gov/marc/cfmap.html.

B. 006 for maps, digital maps and atlases. Optionally add the following:

1. 006 for accompanying maps
2. 006 for book aspects of atlases
   LC is adding these when there is substantial text in an atlas so you’ll see it on copy.
3. 006 for computer files aspects of digital maps
C. 007 for maps, digital maps and atlases. Always add a map 007 when use the type code “e”. This will mean that digital maps will have a map 007 and a computer file 006.

D. 008 (fixed fields) (Note that the 006 fields are defined the same as the 008)

1. CrTp (Type of Cartographic Material)– use “a” Single map for digital maps per LC.
2. Proj (Projection) - only used if piece specifies
3. Relf (Relief) - use with relief note
4. SpFm (Special Format Characteristics) - use to indicate whether map is also something like a wall map, calendar, game, puzzle, etc. (May also bring out more fully these characteristics in the 006)

II. Chief Source

Note: For digital maps, although the type code and fixed fields use the map format, the cataloging rules still instruct that the primary chapter for these materials is Chapter 9 with instructions taken from Chapter 3 as needed. So, only the purely map fields discussed below will pertain to digital maps. For instance, use Chapter 9 for chief source of information for digital maps, not Chapter 3 chief source.

A. No straightforward title page equivalent exists for maps since the chief source is the entire map. (AACR2 3.0B2)

B. Title is chosen on the basis of sequence or layout. If the layout is not clear the most comprehensive title (includes both subject and geographic area) is used. (CM 1B8b and AACR2 3.1B3)

C. The definition of prominence is much different. Prominent is anywhere on the map even in very little type. (AACR2 0.8)

III. Main entry

A. Main entry is based less on prominence and more on who did what.

B. The cartographer has to be more than just the mechanical drawer or tracer to get the main entry.

C. The corporate body must be a map-making body to get main entry. (AACR2 21.1B2f)

D. There is often no statement of responsibility.
IV. Title proper

A. Major difference is that you are encouraged to bracket additional area (place name) information in the subtitle if it is not present in the title. (AACR2 3.1E2)

V. GMD

A. Since LC does not use a GMD in their system, OCLC has asked that contributors to their database also not use it. Many other libraries have decided not to add locally. Remember for digital maps the GMD will be [computer file] since you’re using primarily Chapter 9.

VI. Publisher

A. DO NOT bracket publisher information repeated from elsewhere in the description (e.g., 245 or quoted 500 note) even if it appears only once on the map. (MCM p. 2.6)

Note: this does not include the date. If the date appears only once on the map and is transcribed as any other part of the description (such as the title, edition or notes), it is bracketed in the date of publication.

VII. Notes

A. The first notes are unique to maps. They show:

- additional content of the map not found in the title,
- justification for the date of situation in the call number, and
- relief on main map (AACR2 3.7B1 and MCM p. 3.6-3.12)

Kinds of relief include:
- contours  satellite imagery
- form lines  gradient tints
- spot heights  hachures
- shading  pictorial
- soundings  landforms

B. Give the source of the title proper whenever it is not taken from the recto of the map, namely, when it is taken from the verso, cover, panel, or accompanying text. (MCM p. 3.14 - p. 3.18)

C. A statement of responsibility note may contain the name of the copyright holder if an access point is needed. (MCM p. 2.2 and p. 5.2)

D. Orientation (MCM 3.23)

500 Oriented with north to [left, bottom, or right] or,
500 Oriented with north toward [the upper left, the lower right, etc.]
E. Contents

1. The order of the notes in this area is very specific: recto, verso, cover. (MCM p. 3.30)

2. There are specific definitions attached to various terms used in these notes. (MCM p. 3.32-3.42)

Based on handouts prepared by Catherine Gerhart, University of Washington
**SCALE**

<table>
<thead>
<tr>
<th>Representative Fractions</th>
<th>map distance</th>
<th>ground distance</th>
<th>in same units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1:600 (&quot;large scale&quot;)</td>
<td>034 1 a</td>
<td>b 600</td>
<td>255 Scale 1:600.</td>
</tr>
<tr>
<td>2. 1:300,000,000 (&quot;small scale&quot;)</td>
<td>034 1 a</td>
<td>b 300000000</td>
<td>255 Scale 1:300,000,000.</td>
</tr>
</tbody>
</table>

**Verbal Scale Statements** (63,360 inches in a mile; 100,000 cm. in a km.)
A converter like [http://www.onlineconversion.com/length.htm](http://www.onlineconversion.com/length.htm) is helpful

| 3. One inch to one mile. | 034 1 a | b 63360 | 255 Scale [1:63,360]. 1 in. to 1 mile. |
| 4. 1 centimeter equals approximately 10.5 kilometers. | 034 1 a | b 1050000 | 255 Scale [ca. 1:1,050,000]. 1 cm. = approx. 10.5 km. |

**Graphic Scales**
Use Natural Scale Indicator is available

5. ![Feet Scale Diagram]
   - 034 1 a | b 12250
   - 255 Scale [ca. 1:12,250].

6. ![Miles Scale Diagram]
   - 034 1 a | b 1900800
   - 255 Scale [ca. 1:1,900,800].
Some Combination of the Above

7. Scale, p. 2

Some Combination of the Above

7.

SOUTHERN QUEBEC

Lambert Conformal Conic Projection, Standard Parallels 47°35' and 59°35'
SCALE 1:550,000
1 CENTIMETER = 5.5 KILOMETERS OR 1 INCH = 24.5 MILES

034 1  a |b 1550000
255 Scale 1:1,550,000. 1 cm. = 15.5 km. Or 1 in. = 24.5 miles.

Non-Representative Fraction Scale Statements

8. Scale varies

Use when the scale within a single map varies across the map and the outside values are not known.

034 0  a
255 Scale varies.

If the outside values are known, record both scales, connected by a hyphen.

034 3  a |b 19000 |b 33000
255 Scale 1:19,000-1:33,000.

9. Scales differ

Use when there are three or more maps of equal importance on the sheet or in the set and their scales are not the same.

034 0  a
255 Scales differ.

When there are two or more maps of equal importance with only two different scales, two scale statements are given. Give the larger scale first, unless the smaller scale is clearly predominant or there are only two maps with no collective title. In the latter case, give the scales in the order corresponding to the individual titles in the title area. (If all the information in the mathematical data area is the same for two maps of equal importance, only one mathematical data area is given.)
Scale, p. 3

034 1 a |b 25000
034 1 a |b 30000
255 Scale 1:25,000.
255 Scale 1:30,000.

10. Scale not given

Use only when the only way to determine the scale is to compare the map with a map of known scale (see below) and the library’s policy is not to do so.

034 0 a
255 Scale not given.

11. Scale indeterminable

Use only when there is truly no way to determine the scale using one of the methods described here, including the use of the comparison method.

034 0 a
255 Scale indeterminable.

12. Not drawn to scale

Use for bird’s-eye views, map views, maps of imaginary places, celestial charts and other maps with nonlinear scales which do not give scale information on the item and which are not drawn to scale.

034 0 a
255 Not drawn to scale.

Use of Latitude

Use a scale indicator, if available. If using a ruler, the formula is

\[
\frac{n}{11,000,000}
\]

where \( n \) is the number of centimeters measured on the map for \( 1^0 \) latitude

\( 11,000,000 \) is the approximate number of centimeters on the ground for \( 1^0 \) latitude

To get the representative fraction, divide the numerator and the denominator by \( n \), giving you 1 to the left of the colon and \( 11,000,000/n \) to the right of the colon.
Scale, p 4

13. __________________ 44°

____________________ 45°

034 1 a \| b 5500000
255 Scale [ca. 1:5,500,000].

On scale indicator (1° latitude): On ruler:
1° mark crosses at about 5,500,000
1° = 5,500,000
1:5,500,000
When there is more than one degree latitude between lines, remember to multiply
11,000,000 by the number of degrees represented before applying the formula.

14. __________________ 30°

____________________ 15°

034 1 a \| b 112500000
Scale [ca. 1:112,500,000].

On scale indicator (1° latitude): On ruler:
15° mark crosses at 7,500,000
15° = 7,500,000 x 15
1: 112,500,000
When there is more than one degree latitude between lines, remember to multiply
11,000,000 by the number of degrees represented before applying the formula.

(Note that both methods are only approximations; a difference of 2,500,000 at this small scale is not very significant.)

Comparison with a Map of Known Scale

--Choose a map of known scale that shares identifiable points with the map of unknown scale.
--Measure the distance between two identifiable points on the map of known scale.
--Measure the distance between the same two points on the map of unknown scale, using the same unit of measurement.
--Apply the following equation: \( n=\frac{m \times a}{b} \)

where

\( n \) is the denominator of the RF of the map of unknown scale
\( m \) is the denominator of the RF of the map of known scale
\( a \) is the distance between the two points on the map of known scale
\( b \) is the distance between the two points on the map of unknown scale

This is the least accurate way of determining scale. The Library of Congress does not use this method of calculating scale.
SCALE EXERCISES

1. One inch represents six miles

2. 1 centimeter on the map represents 20 kilometers on the ground

3. One inch equals approximately 40 miles or 64.4 kilometers

4. One inch: approximately 17.3 miles

5. 

6. 

7. 

8. 

SOUTHERN QUEBEC

Lambert Conformal Conic Projection, Standard Parallels 47°30' and 59°30'
SCALE 1:500,000
1 CENTIMETER = 16.3 KILOMETERS OR 1 INCH = 24.3 MILES
Scale Exercises, p. 2

9. ______________________ 30\(^0\)

_ ____________________ 32\(^0\)

10. ______________________ 17\(^0\)

_ ____________________ 22\(^0\)
PROJECTION AND COORDINATES

**PROJECTION** refers to the system used to represent information about the spherical surface of the Earth on a flat surface. There are many different types of projections. *You don’t need to understand any of them to catalog a map.* Projection is not reflected in the 034, but is coded in the fixed fields.

Transcribe a statement of projection found on the map, its container or case, or accompanying printed material in the mathematical data (255) area. Transcribe the statement in English, regardless of the language in which it appears. Use standard abbreviations (e.g. “proj.” for “projection”) and numerals in place of words. Capitalize proper names. (Cartographic Materials, 3C) (Note: The Map Cataloging Manual says to capitalize the first word as well. OCLC documentation follows LC).

255 Scale 1:150,000 ; |b Transverse Mercator proj.

**COORDINATES** refer to the geographical grid lines used to pinpoint locations on the earth.
– Longitude lines (or “meridians”) run north/south between the poles
– Latitude lines (or “parallels”) run east/west parallel to the equator
Both sets of lines are measured in degrees, minutes, and seconds from a standard base line (the number represents the angle measured between the subject line and the base line through the center of the earth).

For longitude, the standard base line (or “prime meridian”) is usually the line which passes through Greenwich, England. However, any meridian can be used as a prime meridian. Older maps often have non-Greenwich prime meridians and this is usually indicated on the map. Longitude is counted 180° east or west from the prime meridian. Record longitude from westernmost to easternmost points.

For latitude, the standard base line is the equator. Latitude is counted 90° north or south from the equator. Record latitude from northernmost to southernmost points.

Give the coordinates in the following order:
westernmost extent, easternmost extent, northernmost extent, southernmost extent

Enter coordinates in the 034 field in the form Hdddmmss (hemisphere, degrees, minutes, seconds, where hemisphere is W, E, N, or S as appropriate).

034 1 a |b 1000000 |d W1013015 |e W0203000 |f N0490000 |g N0343015
255 Scale 1:1,000,000 |c (W 101°30'15"–W 20°30'00"/N 49°00'00"–N 34°30'15").

034 1 a |b 2000 |d W0745000 |e W0744000 |f N0450500 |g N 0450000
255 Scale [ca. 1:2,000] |c (W 74°50'–W 74°40'/N 45°05"–N 45°00').

034 1 a |b 500000 |d E0790000 |e E0860000 |f N0200000 |g N0120000
255 Scale 1:500,000 |c (E 79°–E 86°/N 20°–N 12°).

INPUTTING TIP: The correct symbols for degrees, minutes and seconds are special characters:
– Degrees: Superscript zero
– Minutes (and feet): Miagkii znak
– Seconds (and inches): Tverdyi znak

Coordinates for the moon, planets, and other celestial bodies are given in a note.
MEASURING EXAMPLES

1. 1 map : |b col. ; |c 20 x 27 cm.
   – Measure height x width rounded up to the nearest cm. (with map in reading position).

2. 1 map : |b col. ; |c 51 x 75 cm., folded to 23 x 11 cm.
   – Also give folded size if map is designed to be folded (has panel or cover).

3. 1 map : |b col. ; |c 58 x 48 cm.
   – If cartographic details extends beyond the neat line, include it in the measurement

4. 1 map ; |c 17 x 25 cm.
   – No neat line: measure cartographic extent, which could be the entire sheet.

5. 1 map : |b col. ; |c 20 x 27 cm., on sheet 43 x 28 cm., folded to 22 x 10 cm.
   – Also give sheet size if either dimension of map is less the half the same dimension of the sheet.

6. 1 map in 3 segments : |b col. ; |c 144  x 22 cm., on sheet 55 x 65 cm.
   – Map in segments at consistent scale: measure as if segments are joined; also give sheet size

7. 2 maps on 1 sheet : |b both sides, col. ; |c 32 x 49 cm. and 32 x 55 cm., on sheet 93 x 65 cm.,
   folded to 23 x 11 cm.
   – 2 maps of equal importance (collective title); measure both maps; also give sheet size

8. 1 map on 2 sheets : |b col. ; |c 121 x 194 cm., sheets 137 x 107 cm
   – Map on multiple sheets: measure as if sheets joined, excluding any overlap; also give sheet size

9. 3 maps on 1 sheet ;|bboth sides, col. ;|c73 x 48 cm. or smaller on sheet 75 x 50 cm., folded to
   25 x 13 cm
   – 3 or more maps or sheets, give the greatest height of any of them followed by the greatest
   width of any of them, followed by “or smaller”

10. 1 map : |b both sides, col. ; |c 104 x 109 cm., on sheet 107 x 68 cm., folded to 23 x 11 cm.
    – 1 map continued on back: measure as if one map, excluding overlap; also give sheet size

11. 1 map : |b col. ; |c 43 x 62 cm., folded to 23 x 11 cm.
    – A continuation ancillary map is not included in measurement; mention it in a note (but
coordinates do take continuation into account)

12. 1 map : |b col. ; |c 69 cm. in diam., on sheet 74 x 74 cm.
    – Circular map: give diameter and label as such; also give sheet size

13. 1 map : |b col. ; |c on sheet 46 x 61 cm.
    – Map too difficult to measure: simply give sheet size.
HOW TO DATE A ROAD MAP

Information courtesy of Peter L. Stark,
With additions from Mark A. Bozanich and Velma Parker

Most maps are easily dated either by a prominent date on the cover or in the map legend. But there are still many maps on which no date can be found. Rand McNally and H.M. Gousha have used a code hidden on a map margin to date their maps. These codes are explained below. General Drafting has not used such a code, yet they have varied their dating and an explanation is given for them as well. There is also a brief explanation of the coding used by Geographers A-Z Map Company. For other map publishers, it is recommended that you check the web site compiled by Phil Hoehn at http://www.waml.org/datecode.html.

When a map is undated, dates must be determined by comparing the map to a map of known date. Many companies also changed their covers each year, so that once a particular cover design is dated, other maps of the same design are considered to have the same date. But this method of comparing covers of like design is prone to possible error, so care should be taken when using this method.

When dealing with older maps, it is helpful to remember that U.S. route numbers first appeared in 1926 but did not show on most maps until 1927. Many states numbered their roads well before 1926.

The detailed tables that are included in this handout may also be used to some degree to date a map. Most companies have used different publishers over the years as well as both expanding and contracting the territory they serve, thus helping to limit the possibilities.

Rand McNally Map Date Codes

Over the years, Rand appears to have used a number of "systems" to date their maps. All variations may not be explained here -- but most maps should still be able to be dated. One big exception, in the 1920s some Rand maps have no letters or numbers at all and these must be dated by comparing them to known dated maps.

First, Rand used a simple letter code, A for 1919, B for 1920, through Z in 1944. However, some years prior to 1944 numbers began to appear after the letter. If the set of numbers has four digits, the first two digits either indicate the year the base map was drafted while the second two digits either indicate the year the first Rand map was made of the area (the original base) or simply a code for the area covered. The latter seems more likely except that it limits Rand to one hundred areas. If only two digits exist after the letter, they seem to be a code for the area.

After 1944 the letter was replaced by a one or two digit year preceding the above series of digits and often separated by a hyphen. From 1945 to 1965, only the last digit of the year was used.
To distinguish 1945 from 1955 from 1965 generally requires common sense -- look at the Census date if given, interstate highways, etc. From 1966 to the present, the last two digits of the year are used.

At some point the series of four digits was increased to six digits although this now has been discontinued. It is thought these extra digits indicate the number of printings and would change for each oil company or other distributor. Lastly, still one or two more digits were added after the above series of digits and are separated by a hyphen. These represent the number of editions (possibly updates) to the base map through the current map.

Examples:

Z 4424  The Z indicates a 1944 printing, the 44 shows that the base map was newly drawn this year, the 24 either shows the original base map was drawn in 1924 or simply a code signifying the area covered. (It is a Texaco Illinois map.)

0-3868-4  The 0 indicates either a 1950 or 1960 printing (in this case it is clearly 1950 based on the map), the 38 shows that the base map was drawn in 1938, the 68 cannot be 1968 and so must be a code for the area, and the 4 indicates four updates to the base from 1938 to 1950. (It is Gulf Oil map for Buffalo-Niagara Falls).

Now to all of this may be added a letter N, S, E, or W when only a portion of the base map is used. The presence of a V could indicate a Velox print, though this is not certain.


H.M. Gousha Map Date Codes

The H.M. Gousha Company was founded in 1926 in Chicago by former employees of Rand McNally and like Rand, used a hidden date. While some of their maps are dated in the legend or even on the cover, many Gousha maps do no contain an obvious date.

The code used is one or two letters in a bottom map margin, generally with a series of digits and even another letter. The digits are not relevant to the date; they indicate the map masters for a filing system. The older the map, the fewer the digits, if any at all. If two groups of letters
appear in the series, check both and use the one that makes the most sense based on the map. Occasionally, a map code may indicate different dates on each side of the map or with a particular inset. In this case the map is classified by the newest such date.

Letter A was assigned to 1927, B to 1928, and so forth through Z in 1952. Then AA for 1953, BB for 1954 and so forth through ZZ in 1978. At this point the code gets confusing, refer to the table below.

\[
\begin{array}{cccccccc}
\end{array}
\]

All maps published after 1987 have the edition year on the copyright statement.

**General Drafting Date Codes**

General Drafting has not used a date code in the sense of Rand or Gousha. If any problem exists with GD it is that they use too many dates. The exception is some maps from the 1920s are completely undated and can only be dated by comparing with maps of known date.

If a date is shown on the cover or in the legend, then that is the date to use. When two dates are given, such as 1955-1956 or 1970-71, then always use the first year. Many maps also have a copyright date which is frequently one year earlier than the legend date, in this case use the legend date. However, if the copyright date is the only date, then use the copyright date.

In the 1960s, the legend frequently contained a month in addition to the year. In these cases, from January through August, use the year given; but for September through December, use the next year. This is basically the system GD uses and it will result in common cover designs being called the same year. (This applies to the years 1962-1966 in the detailed map listings.)

Due to reprintings, it is possible for the same map to exist as 1970 and 1970-71 and similarly for other years. These are not listed as separate dates but, in this example, only as 1970.
Since the 1940s, most GD maps contain three or four small digits plus a letter in the margin or on the back cover. This is the month and year of printing and should not be used to date the map unless nothing else exists. These change for each reprinting. The letter indicates the printing company. The only one known for sure is W for Western Publishing and Printing Company.

All of the above explains how to determine the date on which the map was issued. But since about 1958, GD has used a code to date the masters from which the map was created. This date is coded as a small "A" plus a number in a bottom corner of a map. This number indicates the year the base map was first drafted. It is not updated unless the base is redrawn. A1 was for 1953. The following table is for quick reference, but IS NOT THE DATE THE MAP WAS ISSUED.

|-----|------|-----|------|-----|------|-----|------|-----|------|

**Geographers A-Z Map Company**

The codes used by the Geographers A-Z Map Company are located in or near the border at one corner of the map. Atlases produced by the company are coded differently and this table should not be used for them. The code is comprised of three letters, with each letter corresponding to a different digit. The letters and their corresponding digit are:

<table>
<thead>
<tr>
<th>J</th>
<th>I</th>
<th>H</th>
<th>G</th>
<th>F</th>
<th>E</th>
<th>D</th>
<th>C</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>0</td>
</tr>
</tbody>
</table>

Thus, "FDC" as a code would translate into "578" or May 1978.
SUBJECT HEADINGS FOR CARTOGRAPHIC MATERIALS

Major tools:  Library of Congress Subject Headings (LCSH)
             Subject Cataloging Manual (SCM)
             Map Cataloging Manual (MCM)

1. Basic subject assignment  (MCM Chapter 4)
   A. The first subject heading and the classification number should match.
      Exception: Classification can be broader than the first subject. This happens
      when multiple places are represented on the map so that the first "group" of
      subject headings represent the primary subject but the classification number is for
      the broader area representing it.

   B. Every map of an identifiable place must be assigned a subject heading for that area.

   C. Peripheral places may be ignored. For instance, maps of the state of Washington often
      have portions of Idaho and/or Oregon on the map. These peripheral areas may be
      disregarded unless deemed important.

   D. Subject analysis represents what the item is as opposed to what it says it is. If a map
      claims to be a road map but in actually is a tourist map, use Maps, Tourist.

   E. Add topic subjects that get at the general subject matter of the maps or the subject
      matter of the textual material on the map. For instance, for Sanborn insurance maps you
      may want to add a subject heading like:
         Insurance, Fire -- [Place]-- Maps
      Other examples:
         Reclamation of land -- [Place] -- Maps
         Sewage -- [Place] -- Maps
         Roads -- [Place] -- Maps

2. Free-floating subdivisions
   A. Form Subdivisions for use under names of places (SCM H1140)
      The most commonly used form subdivisions for maps are:
      Aerial views (see SCM H1210.5 for further explanation)
      Bathymetric maps
      Historical geography -- Maps
      Index maps
      Maps
      Maps, Outline and base
      Maps, Physical
      Maps, Pictorial
      Maps, Topographic
      Maps, Tourist
      Remote-sensing maps
B. Free-floating additions to names of places

Metropolitan Area (use with names of cities) (SCM H790 & MCM Ch. 4)
Suburban Area (use with names of cities) (SCM H790 & MCM Ch. 4)
Region (use with names of cities & geographic features) (SCM H760)

C. Special cases

There are a number of special cases where specific sets of subject headings are required. These are found in the MCM Chapter 4. In addition to detailing the specific subject headings to be used for particular kinds of maps, it also details how subject access to ancillary maps, inserts, and subsidiary maps should be handled and includes information about particular classification practices.

Some examples of these special cases are:
  Bicycle maps
  Tourist maps
  Nautical charts
  Railroads

D. National forests

There are particular problems with the names of National forests. The instructions for these materials are in MCM Chapter 1. The main thing to remember is administrative names for the forests are not the official names. Because the official names of these forests need Congressional approval to be changed, they are not changed when their administrative names change.

III. Atlases

A. Assign map subject headings to all atlases. However, only assign map subject heading(s) to a book that includes maps if more than 20% of the item consists of maps (SCM H1865).

B. World atlases - use Atlases for world atlases published in the United States. Use Atlases, [country] for world atlases published in other countries, where the country qualifier is the name of the country of publication.
SCALE EXERCISE ANSWERS

1 mile = 63,360 inches  
1 km. = 100,000 cm.
1 foot = 12 inches  
1 km. = 1,000 m.
1 inch = 2.54 cm.  
1 m. = 100 cm.
1° latitude = approx. 11,000,000 cm.

1. 034 1 |b 380160
   255 Scale [1:380,160]. 1 in. represents 6 miles.
   1 in. = 6 miles
   1 in = 6 x 63,360 in.
   1:380,160

2. 034 1 |b 2000000
   255 Scale {1:2,000,000]. 1 cm. represents 20 km.
   1 cm. = 20 km.
   1 cm. = 20 x 100,000 cm.
   1:2,000,000

3. 034 1 |b 2534400
   255 Scale [ca. 1:2,534,400]. 1 in. = approx. 40 miles or 64.4 km.
   1 in. = 40 miles  
   2.54 cm. = 64.4 km.
   1 in. = 40 x 63,360 in.
   2.54 cm. = 64.4 x 100,000 cm.
   1:2534,400  
   2.54/2.54 = 6440,000/2.54
   1:2,535,433

4. 034 1 |b 1096128
   255 Scale [ca. 1:1,096,128]. 1 in. ; approx. 17.3 miles.
   1 in. = 17.3 miles
   1 in. = 17.3 x 63,360 in.
   1:1,096,128

5. 034 1 |b 1665000
   255 Scale [ca. 1:1,665,000].
   On scale indicator (1 km.):
   On ruler:
   150-km. mark crosses at 11,100  
   6 cm. = 100 km.
   1 cm. = 150 x 11,100 km.
   6 cm. = 100 x 100,000 cm.
   1:1,665,000  
   1:1666,667

Scale exercise answers, p. 2
6. **034 1 a |b 253440**  
255 Scale [ca. 1:253,440].

<table>
<thead>
<tr>
<th>Scale</th>
<th>On scale indicator (1 mile):</th>
<th>On ruler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:253,440</td>
<td>4-mile mark crosses at 63,360</td>
<td>1 in. = 4 miles</td>
</tr>
<tr>
<td></td>
<td>1 in. = 4 \times 63,360 in.</td>
<td>1 in. = 4 \times 63,360 in.</td>
</tr>
<tr>
<td></td>
<td>1:253,440</td>
<td>1:253,440</td>
</tr>
</tbody>
</table>

7. **034 1 a |b 5900**  
255 Scale [ca. 1:5,900].

<table>
<thead>
<tr>
<th>Scale</th>
<th>On scale indicator (1000 ft.):</th>
<th>On ruler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:5,900</td>
<td>1000-foot mark crosses at 5900</td>
<td>1 in. = approx. 500 ft.</td>
</tr>
<tr>
<td></td>
<td>1 in. = 500 \times 12 in.</td>
<td>1:6,000</td>
</tr>
</tbody>
</table>

8. **034 1 a |b 2025000**  
255 Scale [ca. 1:2,025,000] not "1:1,550,000" ; Lambert conformal conic proj., standard parallels 47°55' and 59°35'.

<table>
<thead>
<tr>
<th>Scale</th>
<th>On scale indicator (1 mile):</th>
<th>On ruler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:2,025,000</td>
<td>75-mile mark crosses at 27,000</td>
<td>2.4 cm. = 50 km.</td>
</tr>
<tr>
<td></td>
<td>1 mile = 27,000 \times 75 miles</td>
<td>2.4 cm. = 50 \times 100,000 cm.</td>
</tr>
<tr>
<td></td>
<td>1:2,025,000</td>
<td>2.4/2.4 = 5,000,000/2.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1:2,083,333</td>
</tr>
</tbody>
</table>

9. **034 1 a |b 6500000**  
255 Scale [ca. 1:6,500,000].

<table>
<thead>
<tr>
<th>Scale</th>
<th>On scale indicator (1° latitude):</th>
<th>On ruler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:6,500,000</td>
<td>2° mark crosses at 3,250,000</td>
<td>3.4 cm. = 2°</td>
</tr>
<tr>
<td></td>
<td>1° = 3,250,000 \times 2</td>
<td>3.4 cm. = 2 \times 11,000,000 cm.</td>
</tr>
<tr>
<td></td>
<td>1:6,500,000</td>
<td>3.4/3.4 = 22,000,000/3.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1:6,470,588</td>
</tr>
</tbody>
</table>

10. **034 1 a |b 28000000**  
255 Scale [ca. 1:28,000,000].

<table>
<thead>
<tr>
<th>Scale</th>
<th>On scale indicator (1° latitude):</th>
<th>On ruler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:28,000,000</td>
<td>5° mark crosses at 5,600,000</td>
<td>1.95 cm. = 5°</td>
</tr>
<tr>
<td></td>
<td>1° = 5,600,000 \times 5</td>
<td>1.95 cm. = 5 \times 11,000,000 cm.</td>
</tr>
<tr>
<td></td>
<td>1:28,000,000</td>
<td>1.95/1.95 = 55,000,000/1.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1:28,205,128</td>
</tr>
</tbody>
</table>